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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KHARE, DEVESH

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/889,368

Applicant(s)

LAZIK, WALDEMAR

Examiner

Devesh Khare

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. PCT/DE00/00065.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.    | 6) <input type="checkbox"/> Other: _____                                    |

Claims 8-17 are currently pending in this application.

**Minor objections**

Claims 8-17 are objected to because of the following informalities:

In claim 8, the term "A" before the term "Malatyl" in line 1, should be used.

In claims 9-13 and 15-17, the term "A" before the term "malatyl" or "method" in line 1, should be changed to "The".

Claims 9-13 are objected to for failing to end in a period.

Claims 14-16 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 14-16 depend from a cancelled claim 1.

Appropriate correction is required.

**Information Disclosure Statement**

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

**35 U.S.C. 112, second paragraph rejection**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

Claims 9-17 are rejected under the second paragraph of 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) Claims 9-16 recites the limitation "a malatyl polysaccharide" in claim 8. (i.e. it has not been established that this limitation is related to claim 8). There is insufficient antecedent basis for this limitation in the claim.

(2) Claim 12 is directed to a malatyl polysaccharide in the form of malatyl galactomannans (formula IIa and IIb) and claims 10 and 11 are also directed to the malatyl galactomannan (formula IIa) and malatyl galactomannan (formula IIb). Claim 12 does not confer patentable distinction on the previously claimed malatyl galactomannans, is being a substantial duplicate of claims 10 and 11.

(3) The phrase, in claim 14, line 3, "analog epoxy carboxylic acids", is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

(4) Claim 17 provides for a method of using malatyl polysaccharides according to claim 8 as thickening agents or complexing agents for cations or organic compounds or as ion exchangers for aqueous systems or as adjuvants in pharmaceutical applications or as ingredients for hygiene articles, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 17 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims which depend from an indefinite claim which fail to obviate the indefiniteness of the claim from which they depend are also seen to be indefinite and are also rejected for the reasons set forth supra.

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Greene et al. (U.S. Patent 5,770,711).

The applicants' claims are directed toward malatyl polysaccharide, malatyl starch of the formula I, malatyl galactomannan on the basis of mannose of the formula IIa, malatyl galactomannan based on galactose of the formula IIb and malatyl cellulose of the formula III.

Greene et al. disclose a malatyl polysaccharide (cellulose), which is derivatized with the monovalent aliphatic groups containing at least two carboxylic acid groups, derived from 2,3-epoxysuccinic acid (see col. 2, lines 25-33). The disodium salt of the derivatized malatyl polysaccharides is disclosed in col. 2, lines 64-67. In col.3, lines 50-53, examples of derivatized polysaccharides including cellulose, starch and natural gum (galactomannans) are disclosed. In col.4, lines 66-67 and col. 5, lines 1-18, a derivatized cellulose (malatyl derivative) is prepared in a solid phase reaction. Therefore the Greene et al's malatyl polysaccharides are encompassed by the scope of the applicants' claims. It is noted that Greene patent does not provide the explicit chemical structures of the malatyl polysaccharides.

**35 U.S.C. 103(a) rejection**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greene et al. (U.S. Patent 5,770,711) (Greene patent).

Claims 8-13 are drawn toward malatyl polysaccharide, malatyl starch of the formula I, malatyl galactomannan on the basis of mannose of the formula IIa, malatyl galactomannan based on galactose of the formula IIb and malatyl cellulose of the formula III.

The Greene patent teaches a polysaccharide substituted by a monovalent aliphatic group containing at least two carboxylic acid groups derived from epoxy succinic acid (malatyl cellulose) and a method of their preparation (see abstract).

Greene patent discloses a malatyl polysaccharide (cellulose), which is derivatized with the monovalent aliphatic groups containing at least two carboxylic acid groups, derived from 2,3-epoxysuccinic acid (see col. 2, lines 25-33). The disodium salt of the derivatized malatyl polysaccharides is disclosed in col. 2, lines 64-67. In col.3, lines 50-53, examples of derivatized polysaccharides including cellulose, starch and natural gum (galactomannans) are disclosed. It is noted that the present invention is directed to prepare a malatyl polysaccharide by the reaction of epoxy succinate (disodium salt of cis-epoxy succinic acid) with a polysaccharide (see specification page 3, lines 14-15). In

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col.4, lines 66-67 and col. 5, lines 1-18, a derivatized cellulose (malatyl derivative) is prepared in a solid phase reaction, where a paper containing cellulose is derivatized with epoxy succinate.

The Greene patent differs from the applicant's invention that Greene patent does not provide the explicit chemical structures of the derivatized malatyl polysaccharides.

It would have been obvious to person having ordinary skill in the art at the time the invention was made, to prepare the malatyl polysaccharides using the method of Greene patent because the art teaches the preparation of a derivatized cellulose (malatyl derivative) in a suspension or solid phase reaction, by reacting a polysaccharide with an epoxysuccinic acid, the characteristics desirable wherein the carboxyl groups are maintained in their preparation because Greene patent teaches a derivatized polysaccharide in which the hydroxyl group is substituted by monovalent aliphatic groups containing at least two carboxylic acid groups (see col.1, lines 60-65).

Claims 14-16 fail to depend from a proper, pending claim and are seen to be of an indeterminate scope. These claims should be cancelled or amended to properly depend from a pending claim. The examiner notes, an art rejection over claims 14-16 might necessitate a new ground of rejection over prior art in the second office action; however, such new ground of rejection would indeed be necessitated by applicants amendment.

### **State of the Art References**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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Gruber et al. (U.S. Patent 5,597,811)- discloses polyglucosamine derivatives, substituted with epoxysuccinic acid group.

Arnaud et al. (U.S. Patent 5,961,998)- discloses the polysaccharide ethers.

Ward et al. (U.S. Patent 6,455,512)- discloses emulsifiers based on the reaction product of hydrocolloid and dicarboxylic anhydrides.

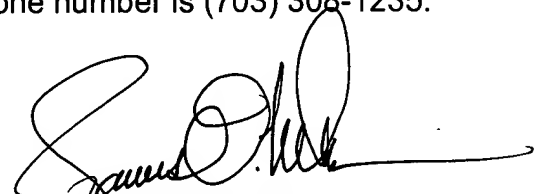
Minami et al. (U.S. Patent 6,468,668)- discloses the copolymer of a saccharide and dicarboxylic acid.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Devesh Khare whose telephone number is (703)605-

1199. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, Supervisory Patent Examiner, Art Unit 1623 can be reached at 703-308-4624. The official fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-4556 or 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Devesh Khare, Ph.D.,JD(3Y).  
Art Unit 1623  
May 29,2003



**JAMES O. WILSON**  
**SUPERVISORY PATENT EXAMINER**  
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